

**MATH 10 - PRETEST CHAPTER 3**

parent/guardian signature \_\_\_\_\_

**Multiple Choice**

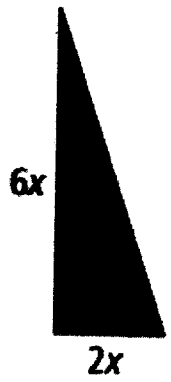
Identify the choice that best completes the statement or answers the question.

1. In the term  $4s^2t^2$ , the number 4 is best described as being the
  - a. coefficient
  - b. exponent
  - c. polynomial
  - d. variable
  
2. The expression  $3s^2 - 4s + 2$  can be described as a(n)
  - a. binomial
  - b. equation
  - c. polynomial
  - d. term
  
3. How many terms are there in the polynomial  $2c^2 + 3cd - 2d^2 + 5$ ?
  - a. 2
  - b. 3
  - c. 4
  - d. 12
  
4. What is the degree of the term  $9s^4t^3$ ?
  - a. 3
  - b. 4
  - c. 7
  - d. 9
  
5. The degree of the polynomial  $5m^4 + 2m^3 - m^2 + 3m + 7$  is
  - a. 2
  - b. 3
  - c. 4
  - d. 10
  
6. Identify the like terms in the following list of terms:  $3c^2, 5c^2d, 2d^2, 4c^2, 2cd^2$ 
  - a.  $3c^2$  and  $4c^2$
  - b.  $5c^2d$  and  $2cd^2$
  - c.  $3c^2$  and  $5c^2d$
  - d.  $2d^2$  and  $2cd^2$
  
7. Combine the like terms in  $4g^2 + 2g^2 + 2g - 3g + 7$ . The answer is
  - a.  $2g^2 - 3g + 7$
  - b.  $2g^2h - g + 7$
  - c.  $2g^2 + 5g - 7$
  - d.  $6g^2 - g + 7$
  
8. Simplify the following expression by grouping like terms.  $2m - 3m^2 + 3m - 6 \rightarrow m + 5m^2 + 2$ 
  - a.  $8m^2 + 6m + 8$
  - b.  $2m^2 + 4m - 4$
  - c.  $-3m^2 + 6m - 8$
  - d.  $-8m^2 + 5m - 4$
  
9. Add the following polynomials.  $(2c^2d^2 - 4cd + 4) + (4c^2d^2 + 2cd - 6)$ 
  - a.  $6c^2d^2 - 2cd - 2$
  - b.  $-2c^2d^2 - 2cd + 10$
  - c.  $4c^2d^2 - 4cd - 6$
  - d.  $6c^2d^2 + 2cd + 2$

10. Subtract the following polynomials and combine like terms.  $(3m^2 - 4mn + 5) - (m^2 - 7mn - 2)$

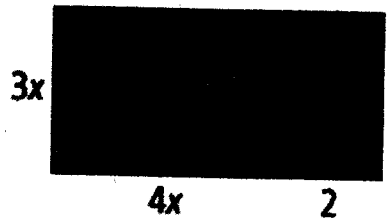
- a.  $2m^2 + 3mn + 3$
- b.  $2m^2 + 3mn + 7$
- c.  $2m^2 - 11mn + 3$
- d.  $2m^2 - 11mn + 7$

11. What is the area of the triangle shown below?  $(A = \frac{l \times w}{2})$



- a.  $3x$
- b.  $3x^2$
- c.  $6x^2$
- d.  $12x^2$

12. Which multiplication statement is represented by the area model below?  $(A=lw)$



- a.  $(3x)(4x + 2) = 12x^2 + 6x$
- b.  $(3x)(4x - 2) = 12x^2 - 6x$
- c.  $(3x)(4x + 2) = 7x + 2$
- d.  $(3x)(4x - 2) = 7x - 2$

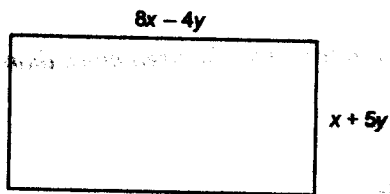
13. Expand and simplify:  $(8h + 3)(7h^2 - 4h + 1)$

- a.  $56h^3 - 53h^2 - 20h + 3$
- b.  $56h^3 + 11h^2 - 12h + 3$
- c.  $56h^3 - 11h^2 - 4h + 3$
- d.  $56h^3 - 32h^2 + 8h + 3$

14. Expand and simplify:  $(10v - 13w)(10v + 13w)$

- a.  $100v^2 + 260vw + 169w^2$
- b.  $100v^2 + 169w^2$
- c.  $100v^2 - 169w^2$
- d.  $100v^2 - 260vw + 169w^2$

15. Which polynomial, written in simplified form, represents the area of this rectangle? ( $A=lw$ )



- a.  $8x^2 - 36xy - 20y^2$   
b.  $8x^2 + 22xy - 20y^2$   
c.  $16x^2 + 72xy - 40y^2$   
d.  $8x^2 + 36xy - 20y^2$
16. Expand and simplify:  $(n^2 - 2n + 3)(-2n^2 + 7n + 8)$   
a.  $-2n^4 + 11n^3 - 12n^2 + 5n + 24$   
b.  $-2n^4 + 11n^3 + 37n + 24$   
c.  $-2n^4 - 3n^3 + 37n + 24$   
d.  $-2n^4 - 3n^3 - 12n^2 + 5n + 24$
17. Expand and simplify:  $(6p + 3)(6p - 7) - (7p - 4)(p - 2)$   
a.  $29p^2 - 42p - 13$   
b.  $29p^2 - 6p - 13$   
c.  $29p^2 - 6p - 29$   
d.  $29p^2 - 42p - 29$

### Completion

18. Simplify the following by combining like terms.

$$2b + 3 - 3b + 2 + 5b - 1$$

19. Subtract the following polynomials.

$$(2n + 5) - (-3n - 2)$$

**Matching**

Match the correct term to each of the following descriptions. A term may be used more than once or not at all.

- a. algebra
- b. degree of a term
- c. expression
- d. term
- e. variable

- \_\_\_ 20. the sum of the exponents on the variables in a single term
- \_\_\_ 21. a symbol that represents an unknown number
- \_\_\_ 22. a branch of mathematics that uses symbols to represent unknown numbers or quantities
- \_\_\_ 23. in  $10p + 7$ ,  $10p$  is an example of this, so is 7

**Short Answer - SHOW YOUR WORK**

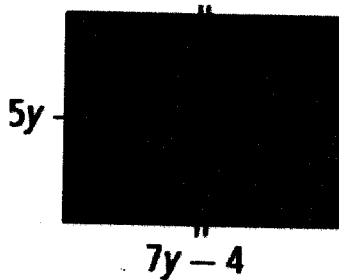
24. Expand and simplify.  $(5r - 6s + s^2)(13r + 3s - 5s^2)$

work

answer

25. Write a simplified expression for the area of this figure. What is the area of the figure? ( $A=lw$ )

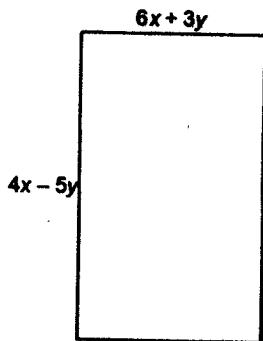
work



answer

**Problem**

26. Write a polynomial to represent the area of this rectangle. Simplify the polynomial. ( $A=lw$ )



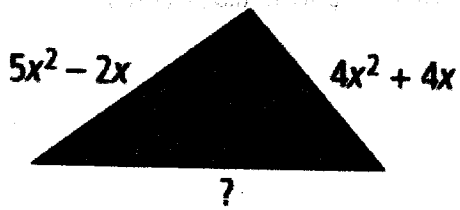
WORK

ANSWER

27. Tony wants to sell some of his old CDs and computer games so he can buy a new game machine. The new machine will cost \$300. He plans to spend \$25 advertising the 21 CDs and 16 computer games he has to sell.
- a) Write an expression to show how much money Tony will receive from selling his CDs and games.

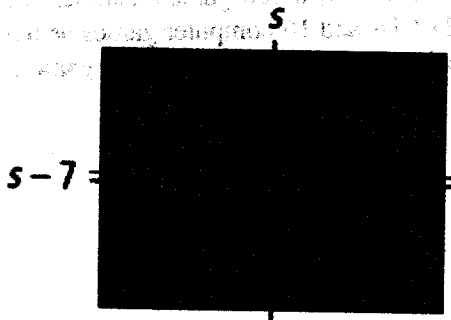
- b) If Tony sells his CDs for \$6 each and his games for \$9 each, will he have enough to buy the new machine?

28. The perimeter of the triangle below can be represented by the polynomial  $14x^2 + 8x$ . What is the missing side length?



**ANSWER**

29. a) Write a simplified expression representing the perimeter of the figure.



**ANSWER**

- b) If  $s = 12$  m, what is the perimeter of the figure?

**WORK**

**ANSWER**